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Keywords: Balance of Payments, Capital Inflow, Investment, Saving, Growth, Spain.

JEL Classification: F21, F32, N13

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Introduction

Spain experienced an investment boom in the third quarter of the nineteenth century, more specifically, between the mid-1850s and the mid-1860s (Prados de la Escosura, 2017). This surge in investment, accompanied by efficiency gains, contributed to accelerating economic growth (Prados de la Escosura and Rosés, 2009). The investment boom took place in a context of economic liberalisation that facilitated imports of raw materials and capital goods to build the railways, the introduction of modern banking, and the exploitation of mineral resources. The long-standing consensus among economic historians has been that the inflow of foreign capital contributed significantly to the investment boom (Tortella, 1973, 1981; Nadal, 1973; Broder, 1976, 1981; Prados de la Escosura, 2010).

In a recent, Carles Sudrià (2018) has challenged the consensus and proposed an alternative explanatory hypothesis of the investment boom in which dishoarding of gold and silver and mobilising previously cumulated savings would have been the main supplier of an increasing investment demand. The emergence of new financial institutions, facilitated by improving property rights, permitted this mobilisation of domestic savings. Furthermore, cumulated savings allowed an outflow of reserves to meet the current account deficit and avoided a sharp contraction in the amount of money in circulation and a deflationary impact on the economy.

In this short essay I will argue that the empirical basis for Sudrià's claim of a lower inflow of capital is flawed, and that the role of foreign capital in Spain's investment boom was actually far from negligible. Yet this result is compatible with a contribution, though much less significant, of dishoarded specie and saving to catering for an expanding investment demand.

Estimating the change in reserves

Sudrià's conjecture is grounded on Alessio Moro, Galo Nuño, and Pedro Tedde's (2015) assessment of Spain's international position, which provided an alternative to my earlier work (Prados de la Escosura, 2010).[1]

[1] Tedde (2015) revised and extended Moro et al. (2015) estimates. Sudrià does not justify his choice simply arguing that "The proposal of Tedde [and his associates] seems to me much more

In their research, Moro et al. needed yearly series of the stock of metallic currency. After considering Gabriel Tortella's (1982) unpublished series of gold and silver stock (reprinted in Martín-Aceña and Pons, 2005), they decided against its use. The reason why Moro et al. did not trust this set of estimates was that Tortella (1982: 16) derived his annual estimates of metallic stock by subtracting the amount of gold and silver minted yearly (Schwartz, 1970: 287-288) from the stock in 1865 (Tortella, 1981: 124). They objected that being derived from mint data the series "suffer from the drawback of ignoring the possibility of reductions in the stocks of gold and silver due to metallic outflows" (Moro et al., 2015: 176). Moreover, the fact that "the mint data are fairly stable and (by definition) never display negative changes", would be at odds with some contemporaries' concern about the specie (silver mainly) outflow from Spain.

It is worth noting, however, that Tortella (1982: 16) was aware that his series provided a lower bound of the actual metallic stock, as he did not take into account the net exports of gold and silver. Along Sardá (1948), Tortella presumed that gold and silver exports exceeded imports and hypothesised the current account deficit and the high intrinsic metallic content of Spanish coin as its causes. Tortella, nonetheless, deemed his estimates acceptable as its expansion from the mid-1850s onwards matched the increase in aggregate economic activity and in the demand for money.

As a benchmark of the metallic stock for 1874 was available, only the net change in gold and silver reserves was needed to project it backwards.[2] Moro et al. (2015) decided to derive it as a residual from the current and capital account balances. They firstly estimated the current account balance, which included the commodity and services balances (taken from Prados de la Escosura, 2010), plus their own estimates of payments to foreign capital and net transfers. Then, they computed the capital account balance on the basis of the available information on foreign investment in railways, banking, mining and metallurgy, and public debt

reliable than that of Prados [de la Escosura], especially with respect to the capital account balance. The robustness of the new estimate relies on a careful analysis of specific studies and contemporary data for each relevant sector" (Sudrià (2018: 2). Interestingly, the sources used in Moro, Nuño and Tedde (2015) and Prados de la Escosura (2010) are practically identical, that reflects in their results, a fact apparently unnoticed by the author (see Table 1).

[2] Moro et al. (2015) do not provide the source of the metallic stock but I presumed it comes from Tortella (1982).

(Moro et al., 2015, online supplement). It is worth noting that a significant reduction was applied to the nominal values of foreign investment, both in railways debentures and shares and in external public debt bonds to capture their acquisition value that, they reckoned, amounted to 56 and 30 per cent of their nominal values, respectively, so, on the whole, effective foreign investment represented about three-quarters of its nominal value over 1850-1874 (Tedde, 2015: 172-174). Lastly, they added up the current and capital account balances to obtain the change in reserves.

Is there an alternative measure of the change in reserves to Tortella's mint figures (used in Prados de la Escosura, 2010 to derive the inflow of capital) and Moro, Nuño and Tedde's residual from the current and capital balances?

In order to provide an answer, let's examine how the metallic stock is built up. Setting its initial level represents the first step. Tortella (1981: 124) provides an estimate for 1865. Then, its annual level results from adding to the initial level the yearly gold and silver coinage (newly minted, less re-minted, plus illegal coinage) and the net imports (legal and illegal or unregistered) of gold and silver coin, and subtracting gold and silver coin hoarded, lost or destroyed. Mint figures are not challenged (Moro et al., (2015, suppl.: 3) but re-minting is an unknown, as are illegal minting and gold and silver hoarded or lost, even though re-minting was a very small proportion of total coinage in the late 1860s (when data are available) (Anes, 1974: 111; Tortella, 1974: 120). In addition, the available data on the net imports of gold and silver also raise objections.

Trade in gold and silver is poorly covered in most countries' historical statistics. In his pioneer study, Imlah (1952: 211) noted that while gold and silver bullion and coin exports were registered in 19th century Britain, no record of imports was kept before 1858. In the case of France, Lévy-Leboyer (1977: 88-89) observed under-registration of specie exports and suggested using the variation in the metallic stock as a crosscheck. Spanish official gold and silver trade statistics have been deemed incomplete due to underreporting (Tortella 1974: 121-122; Moro et al., 2015, suppl.: 2). Specifically, official statistics do not record any imports of gold and silver between 1850 and 1882. Fortunately, however, trade statistics of Spain's main trading partners offer an alternative source. The U.K. trade statistics provide gold and silver trade (imports from Spain only since 1858)

between the United Kingdom and Spain and Gibraltar (the latter as a proxy for smuggling), and the United States trade statistics supply the value of gold and silver exported to and imported from Spain. Moreover, Tedde (2015: 181) presents the Bank of Spain's imports of gold and silver, mainly from France but also from Britain, during 1859-1874. All this information allows us to revise, at least partially, the official figures.[3]

Thus, new estimates of the yearly change in metallic stock can be obtained by adding up the net imports of gold and silver coin (either the official and revised series) to the gold and silver minted every year.[4]

Figure 1 presents the alternative series for yearly change in reserves. It can be observed that Moro et al. figures exhibit higher absolute levels and, unlike the new estimates, frequent negative values, namely, an outflow from Spain, which reached peaks in 1858 and 1865 and 1866 (about -3 per cent of GDP). Conversely, in 1869 and 1874, the inflow of reserves would have represented 8.5 and 6.7 per cent of GDP, respectively.[5]

The revised series of gold and silver trade included in one of the new estimates (B) of the change in reserves aims at dealing with for Moro et al. (2015) concern about the "instability of metallic currency".[6] However, the resulting estimates are much closer to the annually minted gold and silver figures than to Moro et al. 'residual' estimates. Conversely, the new estimates (A) of change in

[3] The revised series of gold and silver trade result from replacing official figures of exports and imports by those from statistics of Spain's main trading partners only when the latter exceeded the former. In addition to the specie trade with the United Kingdom (and Gibraltar) and the United States, imports from France by the Bank of Spain have been used. Tedde (2015) provides smaller purchases of silver during 1849-1855 that I have assumed to come from France also and distributed them equally over 1850-1855. It is worth stressing that most of the correction of the official figures of gold and silver trade corresponds to imports.

[4] Crude estimates of the metallic stock can be derived for 1850-1864 by deducting the annually minted gold and silver and the net imports of gold and silver coin from the stock in 1865 and, then, for 1866-1874 by adding them up to the stock. The annual change in metallic stock provides a measure of the change in reserves.

[5] Pedro Tedde kindly supplied me with his yearly estimates of nominal values of foreign capital entries. Following his 2015 text, I computed its effective value. Net payments to foreign capital were provided in Moro et al., (2015, suppl.). All other components of the current account balance used by Tedde come from Prados de la Escosura (2010). I obtained the change in metallic reserves as the sum the current account and capital account balances. From the annual figures five-year averages identical to those in Tedde (2015) are obtained. It worth stressing that Tedde (2015) foreign capital figures do not match exactly those in Moro et al. (2015).

[6] That is, that is, the net outflow of silver stressed by Barthe and the purchases of bullion to offset the lack of spice in Spain (Moro et al. (2015, suppl.: 3).

reserves that include official specie trade figures (in which imports are nil) provide lower positive values that are, then, closer to Moro et al. estimates.

It could be hypothesised, nonetheless, that the actual gold and silver net exports were larger than those officially recorded, even if no imports were registered in Spanish trade statistics during 1850-1874. Would this mean that the difference between Moro et al. 'residual' estimates and the new more conservative estimates (A), that is, the area between the two in Figure 1, captures, then, an illegal or unrecorded outflow of bullion?

The cumulated difference between Moro et al. (2015) and estimates (A) amounts to 1,113 million Pesetas over 1850-1874, raising to 1,989 if 1869 and 1874 (years of an huge inflow of gold and silver according to Moro et al. series) are excluded. It represents, on average, 0.8 per cent of GDP annually (1.5 per cent when 1869 and 1874 are excluded). When placed it into historical perspective, the implied unregistered outflow would have been larger than the contraction in the stock of gold between its 1870 peak and its 1897 trough, 1,044 million Pesetas (Tortella, 1974: 133), which amounted to 0.4 per cent of GDP. Moreover, it is worth stressing a significant difference between the two periods that challenges the large outflow implicit in Moro et al. estimates: up to the early 1880s, Spain maintained the convertibility of its currency, was open to foreign capital, and had a current account deficit, while in the early 1890s the Peseta was no longer convertible and the current account showed a surplus.

Is it realistic, then, to sustain that Moro et al. 'residual' estimates -which imply such a huge unregistered outflow of gold and silver-, provide a plausible approximation to the change in reserves?

This leads us to discussing the way in which they computed this 'residual'. Moro et al. (2015) and, then, Tedde (2015) followed a direct approach to computing the current and capital account balances.

Assessing the inflow of capital

The direct approach to the capital account balance is fraught with difficulties and becomes next to an impossible task in historical terms. Investment, whether domestic or foreign, results from microeconomic decisions of multiple agents, and no statistics exist to register all of them, particularly as we move back

in time. Even in 19th century Britain, "investment was a private matter and the income from abroad was not subject to distinctive report until late in the century, and then only for certain classes of such income" (Imlah, 1952: 222).

There are empirical grounds to support this view. Goldsmith's (1955) dual (direct and indirect) reconstruction of the U.S. capital account balance in the early 20th century, for example, resulted in substantially lower levels of net capital inflow when derived through the direct approach, as it did not "exhaust total capital movements due to the paucity of capital flows data" (Williamson, 1964: 235).

The realization of this intractable problem led Imlah (1952) and Brezis (1995), North (1960) and Simon (1960), Hartland (1960), Lévy-Leboyer (1977), and Gregory (1979), to construct indirect 'residual' measures of the capital account balance for the United Kingdom, the United States, Canada, France, and Russia, respectively.

In this approach, the current account balance includes the direct estimate of the commodity, services, and transfers balances, while the net payment to capital, that together with net payments to labour comprise the net payments to factors from abroad, is computed indirectly by applying a rate of interest to the country's international indebtedness. Here, the benchmark level of international indebtedness at the beginning of the considered period is yearly updated with the net inflow of capital. The capital account balance is, then, obtained by subtracting the current account balance from the net change in reserves.

Carrying out an indirect 'residual' estimate requires, then, a benchmark level of international indebtedness plus a representative rate of interest. Unfortunately, this implies arbitrary assumptions (Simon, 1960: 694). The initial amount of a country's international indebtedness is not accurately computed and "informed guesses" have been frequently used in historical studies (Imlah, 1952: 227; North, 1960: 587). Moreover, the rate of return applied hardly captures the average returns of a wide and changing variety of capital assets and even less with yearly precision (Imlah, 1952. 222). Furthermore, any alteration in either the interest rate applied or the initial estimate of international indebtedness results in far from negligible differences in the current account balance over the long run (North 1960: 574-5).

The concern about the risk of serious biases in the indirect estimate of Spain's international position led me to compute directly net payments to foreign capital in my previous research (Prados de la Escosura, 2010).[7] Alas, dearth of data only permitted very crude estimates of foreign capital incomes.[8] I distinguished three main items: the service of the external debt, dividends and interests paid to foreign owned railway shares and debentures, and returns to foreign factors in mining. These three items represented altogether four-fifths of British portfolio investment in Spain over 1865-1913 (Stone, 1999: 251).

A comparison between Moro et al. (2015) and my own estimates illustrates the shortcomings of directly estimating net payments to foreign capital (Table 1). Only few major sectors are considered, and while the coverage of returns from mining is far from complete in Moro et al. (2015), returns from banking are neglected in mine. It can be, then, conjectured that, most probably, both estimates provided a lower bound of the actual returns to foreign capital.

As an alternative, I have carried out an indirect estimate of Spain's net payments to foreign capital. The first challenge has been selecting a stock representative of Spain's international indebtedness at the beginning of 1850. Since private foreign investment in the early nineteenth century Spain has been considered negligible (Sardá, 1948: 262), a sensible assumption would be to consider the level of international indebtedness equivalent to the value of external public debt. The nominal value of the external debt by January 1, 1850 can be estimated in 1504.8 million Pesetas (Comín 1996: 131).[9]

It is widely acknowledged in the historical literature that that external debt was never traded above half its nominal value in nineteenth century Spain (Sardá 1948: 257).[10] However, interests were paid on the nominal debt so it is the

[7] Yet the inflow of capital was derived indirectly by deducting the current account balance from the change in reserves –for which I employed annual mint figures from Tortella (1982).
[8] Spanish investments abroad were not supposed to be significant during the 19th and early 20th century and neither Tedde (2015) nor Prados de la Escosura (2010) considered it.
[9] Sardá (1948: 257) provides a slightly higher figure of nominal external debt, 1,623 million Pesetas.
[10] The acquisition value might have been even lower. Broder (1976: 45) and Tedde (2015: 173) suggest an even lower ratio of the effective to nominal external debt. Thus, according to Broder, effective external debt would reach 293 million French Francs, about 255 million Pesetas, rather than 752.4 million Pesetas.

nominal value of the investment the one to be considered when computing interest payments (Tedde, 2015:174).

As regards the rate of return, a weighted average of specific interest rates paid to each class of external debt bonds may provide a reasonable measure.[11] The use of the interest rate on nominal external debt may be considered, however, a lower bound for the rate of return on all foreign investment.[12] Nonetheless, it is worth noting that the higher the interest rate applied to the stock of international indebtedness, the larger the resulting amount of net payments to foreign capital and, hence, the current account deficit.[13] As this exercise aims at testing whether the net capital inflow derived from the direct approach results in an underestimate, biasing the indirect estimates against the hypothesis seems advisable.

Net payments to foreign capital for 1850 can be, then, computed by applying the weighted nominal interest rate on external debt on that year to the nominal value of the external debt on January 1st, which it is conveniently assumed to represent Spain's level of (nominal) international indebtedness. In subsequent years the level of international indebtedness is to be updated with the net inflow of capital. However, in order to ascertain the net inflow of capital from abroad a measure of the net change in reserves is needed. For such a purpose the new estimates (A), resulting from adding the official net imports of gold and silver to the annually minted figures, which are more conservative than those obtained with the revised figures of specie net imports, have been used.

Figure 2 compares net payments to foreign capital derived with the direct and indirect approaches. The results confirm that the direct computation produces much lower levels. This derives from its incomplete coverage of payments to foreign capital, as it is next to impossible to trace all investments from abroad. It also worth noting that Moro et al. estimates matched closely my own estimate, except for the central years of the 1850s and 1874.

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[11] External debt figures and the interest rates applied are taken from Fernández Acha (1976).

[12] Imlah (1952: 223-224/5) warns against using too high an interest rate as not all capital was productively invested and defaults were frequent in the 19th century.

[13] An alternative rate of return would result from a weighted average of specific interest rates paid to each class of external debt bonds and to railways bonds and shares, which were the most frequent assets held by foreign investors in Spain at the time. I have replicated the computations with this alternative rate and the results are hardly different.

Once net payments to foreign capital were obtained, they were added to net payments to domestic labour to derive the balance on payments to foreign factors and, then, to the balances of commodity and services trade and net net transfers. The estimates of current account balance obtained with indirectly computed payments to foreign capital results in a larger deficit than those obtained through direct estimates but follow the same tendencies (Figure 3).[14] As expected from its components' behaviour, the direct current account balance compute by Moro et al. is not far from mine.

The resulting current account balance was subtracted from the net changes in reserves to obtain the capital account balance. Figure 4 shows alternative estimates of the net capital inflow. Similar tendencies appear to exist for the 'residual', direct and indirect, estimates, although the latter presents a larger inflow of capital. Capital from abroad would have represented, on average, between 3.4 and 4.2 per cent of GDP annually, which amounted to between two-fifths and half of Spain's gross domestic investment during the boom years (1857-1867).

Meanwhile, the direct estimates by Moro et al. (2015), updated in Tedde (2015), not only present much lower levels but also follow a different evolution with a short-lived boom over 1858-1864, in which capital imports represented an average of 1.8 per cent of GDP, that is, 18 per cent of gross capital formation (that falls to 1.3 and 14 per cent of GDP and investment over 1857-1867). The 1869 and 1874 peaks constitute exceptional outliers in which foreign capital would reach over 8 per cent of GDP, that is, a larger share than that of aggregate investment.

Concluding remarks

As their purpose was to derive new series of the stock of metallic currency, Moro, Nuño and Tedde (2015) did not delve much into the discrepancy between the net inflow of capital that resulted from their direct computation of the capital account balance and my 'residual' estimates (Prados de la Escosura, 2010). However, the consequences for historical interpretation were substantial as their

[14] Direct estimates of the net inflow of capital not only suffer from incomplete coverage even when, as in the Spanish case the vast research has been carried out by Broder (1976, 1981), Chastagneret (2000), Harvey and Taylor (1987), Stone (1999), and Tedde (1978), but from being valued at different years as significant fluctuations in the value of investment occurred over time.

much lower net capital imports implied that a substantial outflow of reserves was required to balance the current account.

It has been Sudrià (2018), after accepting Moro et al. (2015) estimates and observing no signs of deflation in the Spanish economy, who has put forward an explanatory hypothesis: in the presence of low external borrowing, dishoarding gold and silver and mobilising previously hidden savings permitted a substantial outflow of specie to meet the current account deficit, with no deflationary impact on the economy.

From the present discussion emerges that the direct appraisal of the capital balance account favoured by Moro et al. (2015) resulted in an significant underestimate of the net capital inflow and, hence, in a substantial upward bias of the change in reserves.

A major implication is that Sudrià's hypothesis results severely weakened. Although increasing economic freedom provided investment opportunities that stimulated dishoarding of savings, no threat of deflation existed. The current account deficit actually resulted from an inflow of capital that facilitated imports of capital goods and raw materials beyond the limit set by export receipts. The net inflows of capital made possible to meet the demand for domestic investment and, thus, boosted Spanish economic performance. Foreign capital made, hence, a distinctive contribution to the investment boom in 19th century Spain.

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Table 1
Payments to Foreign Capital: Direct Estimates, 1850-1874 (million Peseta)

Panel A Moro, Nuño, and Tedde (2015, suppl.)

	Public Debt	Railways	Mining	Banking	Other	TOTAL
1850	50.3					**50.3**
1851	44.4		0.1			**44.5**
1852	43.3		0.1			**43.4**
1853	16.8		0.1			**16.9**
1854	16.8		0.2			**17.0**
1855	15.6		0.2			**15.8**
1856	16.4		0.6	3.9		**20.9**
1857	17.0	5.4	0.6	3.4		**26.4**
1858	18.4	10.9	0.6	15.5		**45.4**
1859	19.6	14.3	0.6	5.9		**40.4**
1860	19.3	18.7	0.7	7.9		**46.6**
1861	19.8	18.9	0.7	5.8		**45.2**
1862	19.9	19.6	1.0	14.6		**55.1**
1863	21.1	19.6	1.2	21.6		**63.5**
1864	21.1	9.8	1.5	13.0		**45.4**
1865	22.3	35.3	1.9	9.7		**69.2**
1866	22.3	33.6	2.2	4.9		**63.0**
1867	23.5	33.5	2.5			**59.5**
1868	38.7	31.7	2.7			**73.1**
1869	74.5	28.1	3.0	4.1		**109.7**
1870	74.5	34.0	3.3	5.6		**117.4**
1871	75.9	40.1	4.8	7.6	0.4	**128.8**
1872	91.5	40.2	6.0	7.6	2.1	**147.4**
1873	77.7	47.2	8.7	6.5	11.7	**151.8**
1874		48.9	9.9	14.0	20.8	**93.6**

Panel B Prados de la Escosura (2010)

	Public Debt	Railways	Mining	TOTAL
1850	54.8	0.0	1.1	**55.9**
1851	49.0	0.0	0.2	**49.2**
1852	47.7	0.0	3.6	**51.3**
1853	46.7	0.0	1.0	**47.7**
1854	45.9	0.0	1.9	**47.8**
1855	42.1	0.0	1.2	**43.3**
1856	41.6	0.2	0.4	**42.2**
1857	39.6	0.7	0.4	**40.7**
1858	38.5	5.4	0.0	**43.9**
1859	37.7	7.8	0.3	**45.8**
1860	36.7	13.7	1.3	**51.6**
1861	35.3	13.5	1.3	**50.1**
1862	35.3	19.5	1.2	**55.9**
1863	31.6	18.0	1.5	**51.2**
1864	31.4	37.4	4.0	**72.8**
1865	31.1	18.2	2.4	**51.8**
1866	30.9	36.1	0.8	**67.9**
1867	30.9	35.0	0.5	**66.4**
1868	41.4	36.4	5.5	**83.3**
1869	74.6	33.8	5.1	**113.5**
1870	74.6	34.8	3.8	**113.2**
1871	74.6	38.8	13.2	**126.6**
1872	74.9	43.5	19.2	**137.6**
1873	77.6	41.3	21.1	**140.1**
1874	115.8	49.1	29.0	**193.9**

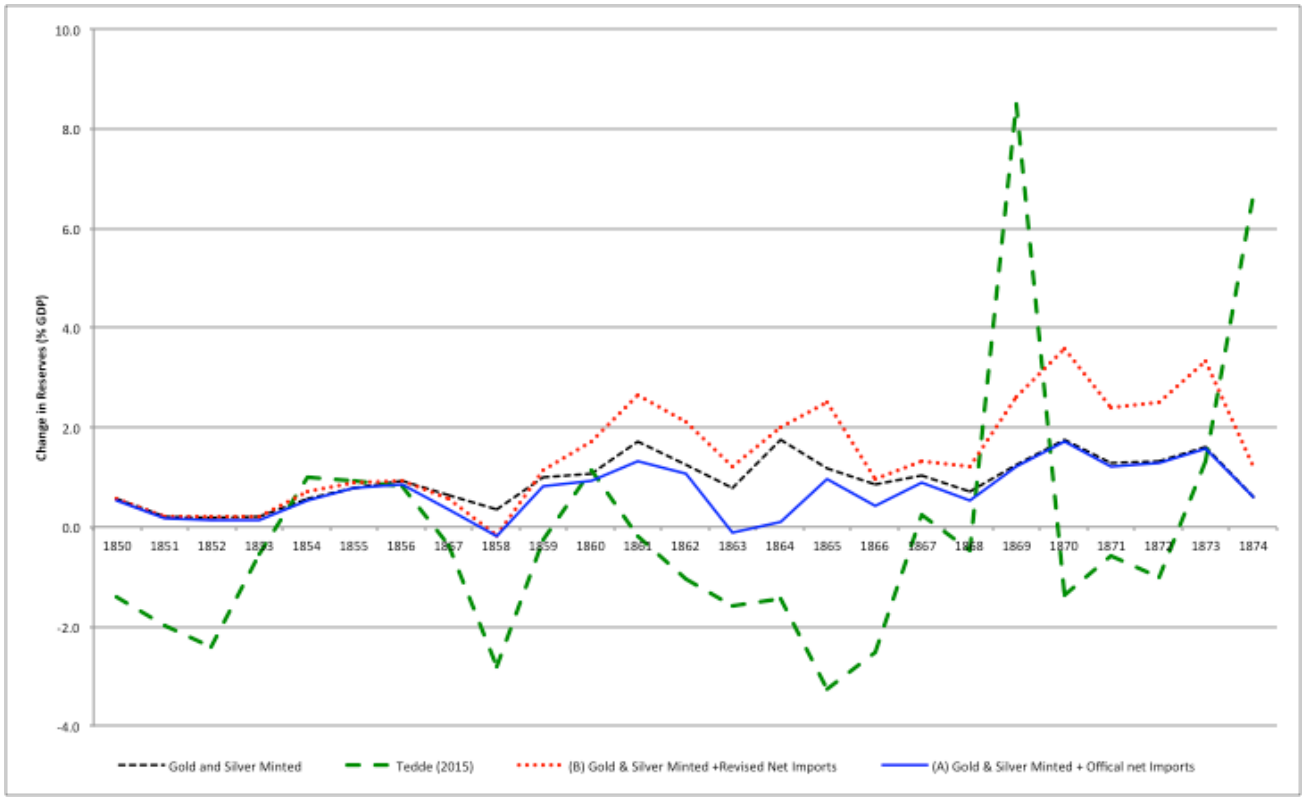

Figure 1 Variations in Reserves (% GDP): Alternative Estimates

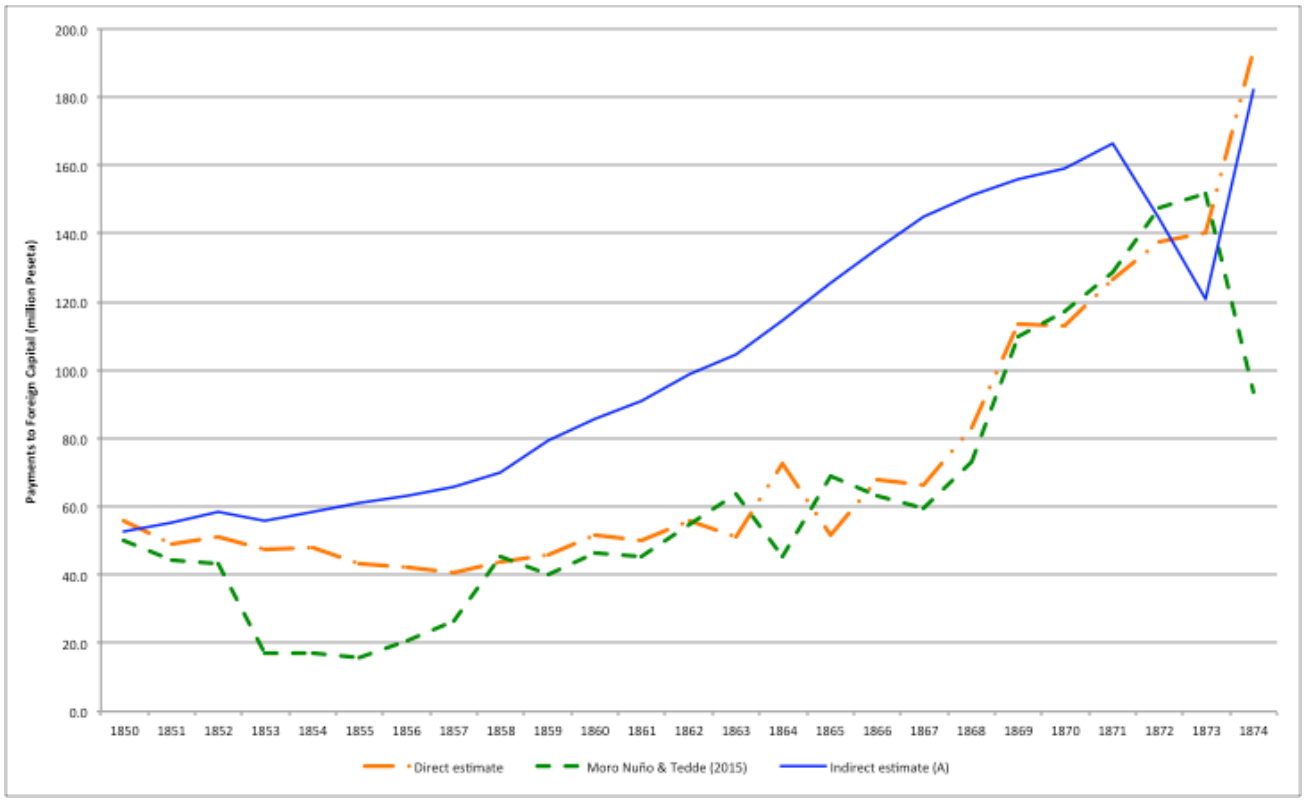

Figure 2 Net Payments to Foreign Capital: Direct and Indirect Estimates (million Peseta)

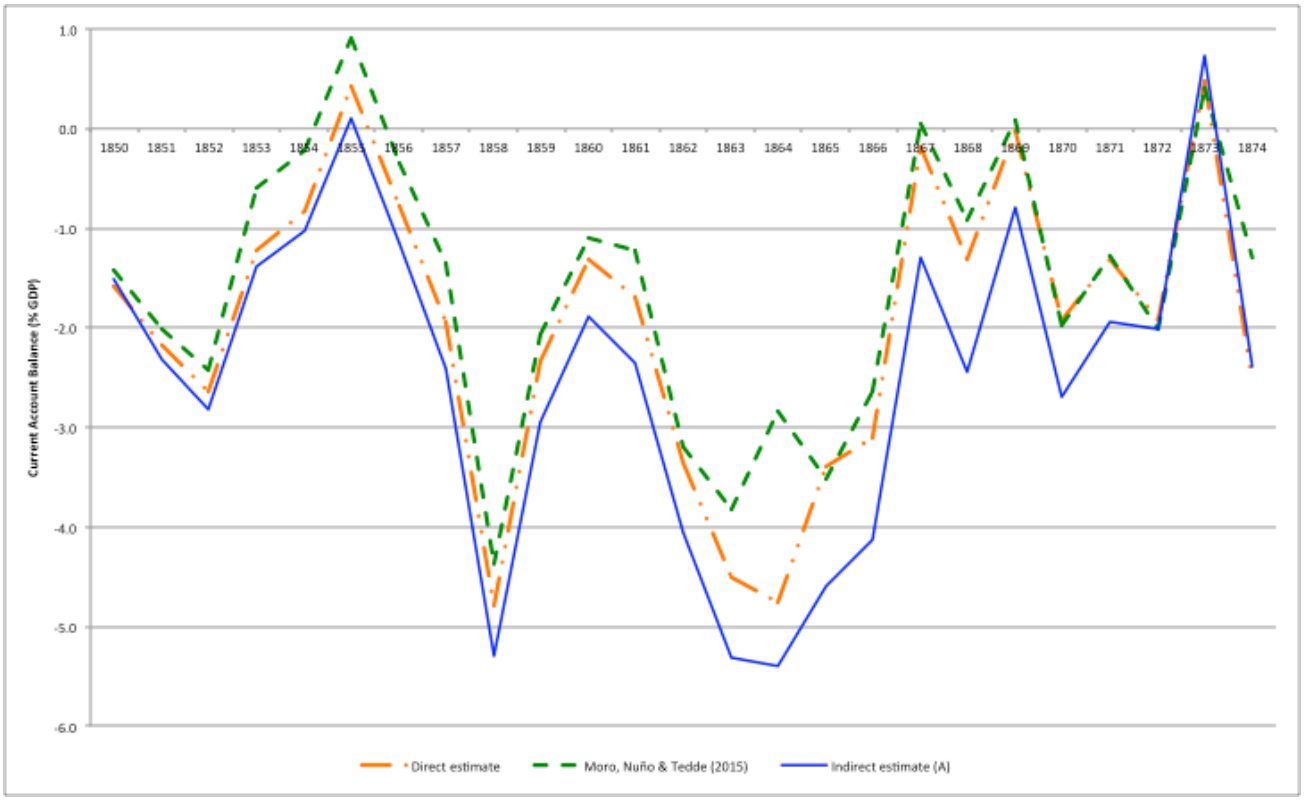

Figure 3 Current Account Balance (% GDP): Direct and Indirect Estimates

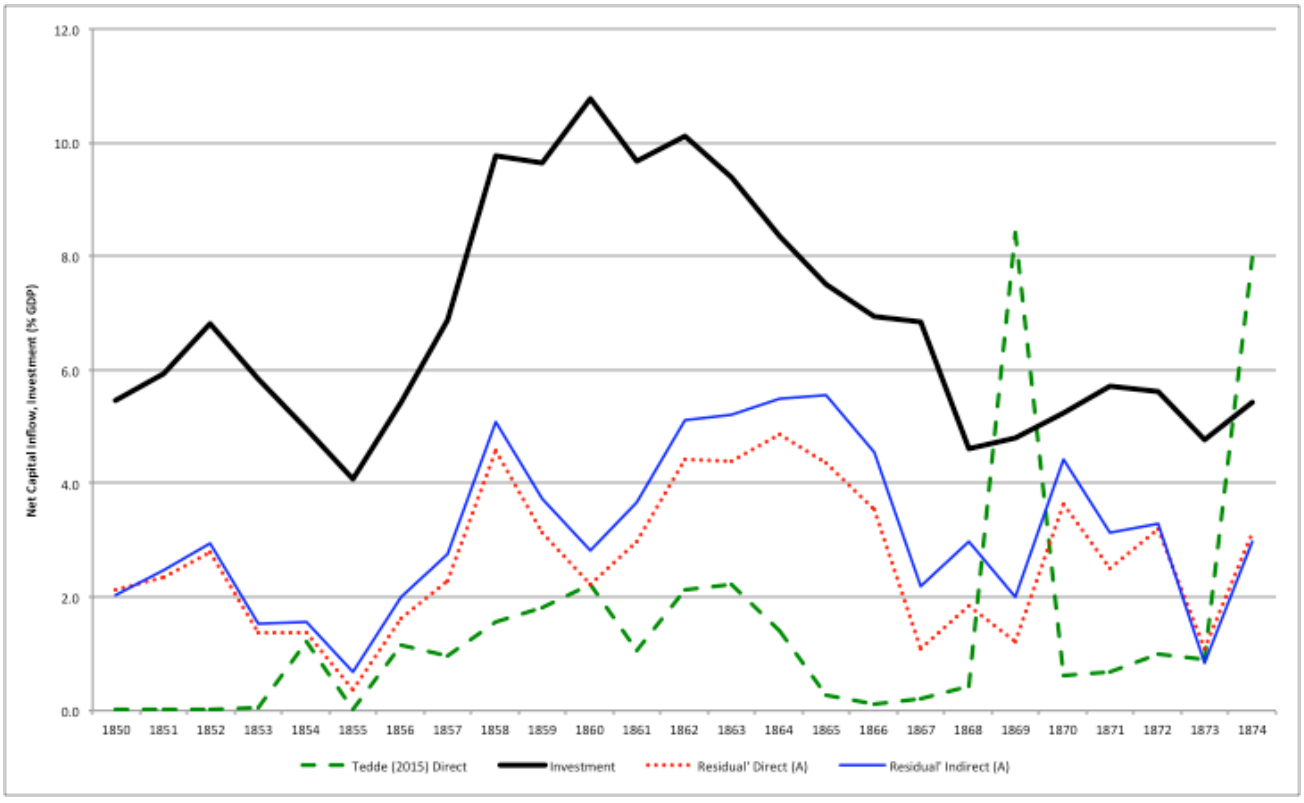

Figure 4 Investment and 'Residual' and Direct Net Capital Inflow (% GDP)

Appendix

Table A.1

Balance of Payments on Current Account and Net Capital Inflow, 1850-1874
(million Pesetas): **Direct 'Residual' Estimates**

	[1] Commodity Balance	[2] Balance of Services	[3] Net Income from Abroad	[4] Net Current Transfers	[5] Current Account Balance	[6] Variation in Reserves	[7] Net Capital Inflow
1850	-7.6	-8.4	-55.7	4.2	-67.4	22.5	89.9
1851	-39.3	-10.3	-49.0	4.2	-94.5	7.3	101.8
1852	-59.5	-9.5	-51.0	4.3	-115.8	6.0	121.8
1853	-12.1	-9.3	-47.4	5.3	-63.6	7.7	71.3
1854	12.0	-15.0	-47.5	6.1	-44.4	29.1	73.4
1855	85.0	-24.5	-43.0	6.4	24.0	44.2	20.3
1856	27.5	-36.6	-41.8	7.1	-43.9	47.8	91.6
1857	-19.0	-53.9	-40.2	8.0	-105.2	18.2	123.3
1858	-165.5	-50.9	-43.4	8.0	-251.8	-10.6	241.2
1859	-60.1	-34.2	-45.3	8.4	-131.1	45.4	176.5
1860	-45.7	9.4	-51.1	8.6	-78.8	54.5	133.3
1861	-44.8	-16.5	-49.6	8.6	-102.4	79.7	182.0
1862	-125.9	-39.2	-55.1	9.9	-210.3	66.7	277.0
1863	-206.1	-49.5	-50.4	9.5	-296.5	-7.8	288.6
1864	-208.0	-42.4	-72.1	9.8	-312.7	6.6	319.3
1865	-131.3	-38.1	-51.0	10.5	-210.0	60.3	270.3
1866	-113.4	-38.5	-66.9	12.7	-206.1	28.1	234.2
1867	67.5	-28.6	-65.4	13.4	-13.1	63.7	76.8
1868	31.1	-41.7	-82.3	14.6	-78.3	32.3	110.6
1869	124.8	-30.9	-112.3	16.9	-1.4	65.8	67.2
1870	11.5	-31.9	-112.1	17.3	-115.1	102.4	217.5
1871	50.3	-25.6	-125.5	16.9	-83.9	77.6	161.5
1872	13.7	-38.4	-135.9	19.4	-141.1	93.6	234.7
1873	176.0	-22.5	-138.0	22.1	37.7	123.8	86.1
1874	9.2	-43.3	-191.3	28.0	-197.3	45.5	242.9

Sources: Cols. 1-4, Prados de la Escosura (2010); Cols. 5-7, see the text

	[1] Commodity Balance	[2] Balance of Services*	[3] Current Account Balance	[4] Net Current Transfers	[5] Current Account Balance	[6] Variation in Reserves	[7] Net Capital Inflow
1850	-7.6	-8.4	-52.4	4.2	-64.1	22.5	86.6
1851	-39.3	-10.3	-54.9	4.2	-100.4	7.3	107.7
1852	-59.5	-9.5	-58.3	4.3	-123.1	6.0	129.1
1853	-12.1	-9.3	-55.5	5.3	-71.6	7.7	79.3
1854	12.0	-15.0	-58.1	6.1	-55.0	29.1	84.0
1855	85.0	-24.5	-60.7	6.4	6.2	44.2	38.0
1856	27.5	-36.6	-62.7	7.1	-64.8	47.8	112.5
1857	-19.0	-53.9	-65.4	8.0	-130.3	18.2	148.5
1858	-165.5	-50.9	-69.8	8.0	-278.2	-10.6	267.6
1859	-60.1	-34.2	-78.8	8.4	-164.6	45.4	209.9
1860	-45.7	9.4	-85.2	8.6	-112.8	54.5	167.3
1861	-44.8	-16.5	-90.6	8.6	-143.4	79.7	223.0
1862	-125.9	-39.2	-98.2	9.9	-253.4	66.7	320.1
1863	-206.1	-49.5	-103.7	9.5	-349.8	-7.8	342.0
1864	-208.0	-42.4	-113.9	9.8	-354.5	6.6	361.1
1865	-131.3	-38.1	-124.8	10.5	-283.8	60.3	344.1
1866	-113.4	-38.5	-134.7	12.7	-273.9	28.1	302.0
1867	67.5	-28.6	-143.8	13.4	-91.5	63.7	155.1
1868	31.1	-41.7	-150.1	14.6	-146.1	32.3	178.3
1869	124.8	-30.9	-154.6	16.9	-43.8	65.8	109.6
1870	11.5	-31.9	-157.9	17.3	-160.9	102.4	263.3
1871	50.3	-25.6	-165.6	16.9	-124.0	77.6	201.5
1872	13.7	-38.4	-142.7	19.4	-147.9	93.6	241.5
1873	176.0	-22.5	-118.6	22.1	57.1	123.8	66.7
1874	9.2	-43.3	-179.4	28.0	-185.5	45.5	231.0

Table A.2

Balance of Payments on Current Account and Net Capital Inflow, 1850-1874
(million Pesetas): **Indirect 'Residual' Estimates**

Sources: Cols. 1-4, Prados de la Escosura (2010); Cols. 5-7, see the text

Table A.3

Investment and Saving, 1850-1874: Direct Estimates (Million Pesetas and % GDP)

Panel A (million Pesetas)

	[1] Gross Investment	[2] Current Account Balance	[3] Gross Saving	[4] Government Saving	[5] Private Saving	[6] Net Capital Inflow
1850	232.3	-67.4	164.8	4.0	160.8	89.9
1851	258.3	-94.5	163.8	-27.0	190.8	101.8
1852	297.7	-115.8	181.9	-10.0	191.9	121.8
1853	300.8	-63.6	237.2	-11.0	248.2	71.3
1854	264.3	-44.4	220.0	-27.0	247.0	73.4
1855	230.4	24.0	254.4	-52.0	306.4	20.3
1856	304.3	-43.9	260.4	-66.0	326.4	91.6
1857	370.1	-105.2	264.9	-54.0	318.9	123.3
1858	513.2	-251.8	261.4	-42.0	303.4	241.2
1859	539.9	-131.1	408.8	6.0	402.8	176.5
1860	642.2	-78.8	563.4	-65.0	628.4	133.3
1861	588.0	-102.4	485.7	-131.0	616.7	182.0
1862	632.1	-210.3	421.8	-130.0	551.8	277.0
1863	617.4	-296.5	320.9	-121.0	441.9	288.6
1864	548.2	-312.7	235.5	-186.0	421.5	319.3
1865	464.9	-210.0	255.0	-139.0	394.0	270.3
1866	458.9	-206.1	252.8	-101.0	353.8	234.2
1867	482.6	-13.1	469.5	-118.0	587.5	76.8
1868	275.1	-78.3	196.8	-149.0	345.8	110.6
1869	264.0	-1.4	262.6	-270.0	532.6	67.2
1870	313.4	-115.1	198.3	-331.0	529.3	217.5
1871	367.1	-83.9	283.2	-238.0	521.2	161.5
1872	413.4	-141.1	272.3	-219.0	491.3	234.7
1873	374.3	37.7	411.9	-227.0	638.9	86.1
1874	423.2	-197.3	225.9	-10.0	235.9	242.9

Sources: Col. 1, Prados de la Escosura (2017); Col. 2 Table A.1; Col. 3 = Col. 1+ Col. 2; Col. 4, Comín and Díaz Fuentes (2005); Col. 5 = Col. 4- Col. 5; Col. 6, Table A.1

Table A.3

Investment and Saving, 1850-1874: Direct Estimates (Million Pesetas and % GDP)

Panel B

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
	(% GDP)						(% Gross Domestic Investment)	
	Gross Investment	Current Account Balance	Gross Saving	Government Saving	Private Saving	Net Capital Inflow	Current Account Balance (negative)	Net Capital Inflow
1850	5.5	-1.6	3.9	0.1	3.8	2.1	29.0	38.7
1851	5.9	-2.2	3.8	-0.6	4.4	2.3	36.6	39.4
1852	6.8	-2.6	4.2	-0.2	4.4	2.8	38.9	40.9
1853	5.8	-1.2	4.6	-0.2	4.8	1.4	21.1	23.7
1854	5.0	-0.8	4.1	-0.5	4.6	1.4	16.8	27.8
1855	4.1	0.4	4.5	-0.9	5.4	0.4	-10.4	8.8
1856	5.4	-0.8	4.7	-1.2	5.8	1.6	14.4	30.1
1857	6.9	-1.9	4.9	-1.0	5.9	2.3	28.4	33.3
1858	9.8	-4.8	5.0	-0.8	5.8	4.6	49.1	47.0
1859	9.6	-2.3	7.3	0.1	7.2	3.1	24.3	32.7
1860	10.8	-1.3	9.5	-1.1	10.5	2.2	12.3	20.8
1861	9.7	-1.7	8.0	-2.2	10.1	3.0	17.4	31.0
1862	10.1	-3.4	6.7	-2.1	8.8	4.4	33.3	43.8
1863	9.4	-4.5	4.9	-1.8	6.7	4.4	48.0	46.8
1864	8.3	-4.8	3.6	-2.8	6.4	4.9	57.0	58.2
1865	7.5	-3.4	4.1	-2.2	6.4	4.4	45.2	58.1
1866	6.9	-3.1	3.8	-1.5	5.3	3.5	44.9	51.0
1867	6.8	-0.2	6.6	-1.7	8.3	1.1	2.7	15.9
1868	4.6	-1.3	3.3	-2.5	5.8	1.9	28.5	40.2
1869	4.8	0.0	4.8	-4.9	9.7	1.2	0.5	25.5
1870	5.2	-1.9	3.3	-5.5	8.9	3.6	36.7	69.4
1871	5.7	-1.3	4.4	-3.7	8.1	2.5	22.9	44.0
1872	5.6	-1.9	3.7	-3.0	6.7	3.2	34.1	56.8
1873	4.8	0.5	5.3	-2.9	8.2	1.1	-10.1	23.0
1874	5.4	-2.5	2.9	-0.1	3.0	3.1	46.6	57.4

Sources: Table A.3, Panel A and GDP from Prados de la Escosura (2017)

Table A.4

Investment and Saving, 1850-1874: Indirect Estimates (Million Pesetas and % GDP)

Panel A (million Pesetas)

	[1]	[2]	[3]	[4]	[5]	[6]
	Gross Investment	Current Account Balance	Gross Saving	Government Saving	Private Saving	Net Capital Inflow
1850	232.3	-64.1	168.1	4.0	164.1	86.6
1851	258.3	-100.4	157.9	-27.0	184.9	107.7
1852	297.7	-123.1	174.7	-10.0	184.7	129.1
1853	300.8	-71.6	229.2	-11.0	240.2	79.3
1854	264.3	-55.0	209.4	-27.0	236.4	84.0
1855	230.4	6.2	236.6	-52.0	288.6	38.0
1856	304.3	-64.8	239.5	-66.0	305.5	112.5
1857	370.1	-130.3	239.8	-54.0	293.8	148.5
1858	513.2	-278.2	235.0	-42.0	277.0	267.6
1859	539.9	-164.6	375.3	6.0	369.3	209.9
1860	642.2	-112.8	529.4	-65.0	594.4	167.3
1861	588.0	-143.4	444.7	-131.0	575.7	223.0
1862	632.1	-253.4	378.8	-130.0	508.8	320.1
1863	617.4	-349.8	267.6	-121.0	388.6	342.0
1864	548.2	-354.5	193.6	-186.0	379.6	361.1
1865	464.9	-283.8	181.1	-139.0	320.1	344.1
1866	458.9	-273.9	185.0	-101.0	286.0	302.0
1867	482.6	-91.5	391.2	-118.0	509.2	155.1
1868	275.1	-146.1	129.0	-149.0	278.0	178.3
1869	264.0	-43.8	220.3	-270.0	490.3	109.6
1870	313.4	-160.9	152.5	-331.0	483.5	263.3
1871	367.1	-124.0	243.1	-238.0	481.1	201.5
1872	413.4	-147.9	265.4	-219.0	484.4	241.5
1873	374.3	57.1	431.4	-227.0	658.4	66.7
1874	423.2	-185.5	237.7	-10.0	247.7	231.0

Sources: Col. 1, Prados de la Escosura (2017); Col. 2 Table A.2; Col. 3 = Col. 1+ Col. 2; Col. 4, Comín and Díaz Fuentes (2005); Col. 5 = Col. 4- Col. 5; Col. 6, Table A.2

Table A.4

Investment and Saving, 1850-1874: Indirect Estimates (Million Pesetas and % GDP)

Panel B

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]
	(% GDP)						(% Gross Domestic Investment)	
	Gross Investment	Current Account Balance	Gross Saving	Government Saving	Private Saving	Net Capital Inflow	Current Account Balance (negative)	Net Capital Inflow
1850	5.5	-1.5	4.0	0.1	3.9	2.0	27.6	37.3
1851	5.9	-2.3	3.6	-0.6	4.3	2.5	38.9	41.7
1852	6.8	-2.8	4.0	-0.2	4.2	3.0	41.3	43.4
1853	5.8	-1.4	4.4	-0.2	4.7	1.5	23.8	26.4
1854	5.0	-1.0	3.9	-0.5	4.4	1.6	20.8	31.8
1855	4.1	0.1	4.2	-0.9	5.1	0.7	-2.7	16.5
1856	5.4	-1.2	4.3	-1.2	5.5	2.0	21.3	37.0
1857	6.9	-2.4	4.4	-1.0	5.4	2.8	35.2	40.1
1858	9.8	-5.3	4.5	-0.8	5.3	5.1	54.2	52.1
1859	9.6	-2.9	6.7	0.1	6.6	3.7	30.5	38.9
1860	10.8	-1.9	8.9	-1.1	10.0	2.8	17.6	26.1
1861	9.7	-2.4	7.3	-2.2	9.5	3.7	24.4	37.9
1862	10.1	-4.1	6.1	-2.1	8.1	5.1	40.1	50.6
1863	9.4	-5.3	4.1	-1.8	5.9	5.2	56.7	55.4
1864	8.3	-5.4	2.9	-2.8	5.8	5.5	64.7	65.9
1865	7.5	-4.6	2.9	-2.2	5.2	5.6	61.0	74.0
1866	6.9	-4.1	2.8	-1.5	4.3	4.6	59.7	65.8
1867	6.8	-1.3	5.5	-1.7	7.2	2.2	19.0	32.1
1868	4.6	-2.4	2.2	-2.5	4.7	3.0	53.1	64.8
1869	4.8	-0.8	4.0	-4.9	8.9	2.0	16.6	41.5
1870	5.2	-2.7	2.6	-5.5	8.1	4.4	51.3	84.0
1871	5.7	-1.9	3.8	-3.7	7.5	3.1	33.8	54.9
1872	5.6	-2.0	3.6	-3.0	6.6	3.3	35.8	58.4
1873	4.8	0.7	5.5	-2.9	8.4	0.9	-15.3	17.8
1874	5.4	-2.4	3.1	-0.1	3.2	3.0	43.8	54.6

Sources: Table A.4, Panel A and GDP from Prados de la Escosura (2017)